

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
23 December 2004 (23.12.2004)

PCT

(10) International Publication Number
WO 2004/110715 A2

(51) International Patent Classification⁷: **B29C**

(21) International Application Number:
PCT/US2004/016338

(22) International Filing Date: 25 May 2004 (25.05.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/474,445 30 May 2003 (30.05.2003) US

(71) Applicant (for all designated States except US): MICHE-
LIN NORTH AMERICA, INC. [FR/US]; 515 Michelin
Road, Greenville, SC 29602 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): FLANNERY, Tim-
othy [US/US]; 1201 Jackson Valley Road, McKee, KY
40447 (US).

(74) Agent: DORITY & MANNING, P.A.; P.O. Box 1449,
Greenville, SC 29602 (US).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

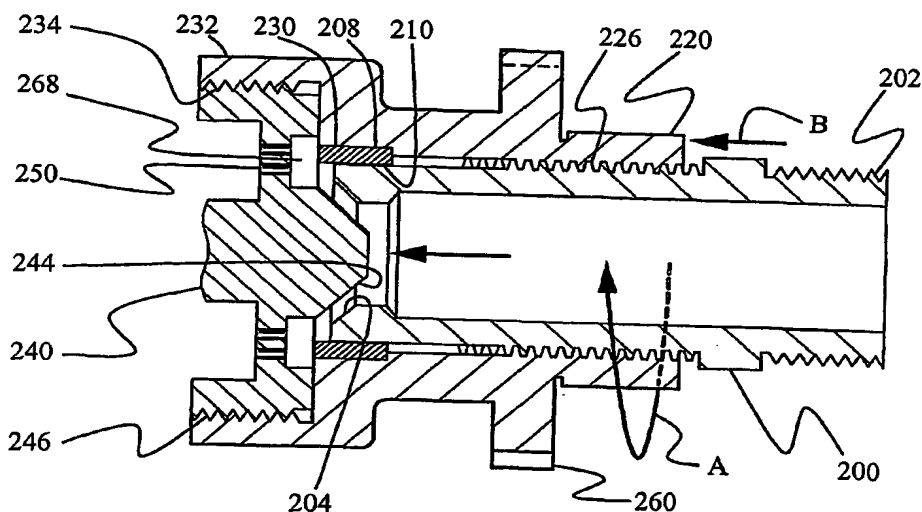
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished
upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: VARIABLE DIE FOR USE IN DRYING SYNTHETIC ELASTOMERS



(57) Abstract: Apparatus and methodologies are provided for flash drying liquid materials using a variable die. A die and a die body are provided with an adjustably configured pressure regulating variable obstruction in the material flow path that allows control of the pressure applied to the material and consequent control of the temperature of the material as it enters the die. Optimizing pressure and temperature allows optimization of the flash drying process.